REMARKS

This application contains claims 1-40, all of which were rejected in the Official Action of May 19. Reconsideration is respectfully requested.

Claims 1-4, 6, 7, 9-11, 20-23, 25, 26, 28-30 and 39 were rejected under 35 U.S.C. 102(e) over Scott (U.S. Patent 6,339,481), while claims 5 and 24 were rejected under 35 U.SC. 103(a) over Scott. Applicant respectfully traverses these rejections.

Scott describes a method for providing real-time facsimile transmission over an intermediate digital network of unknown and unpredictable delay. The method uses facsimile interface units (FIU) to interface between the originating and destination facsimile terminal equipment (FTE) and the network. While the destination FIU is waiting for data from the originating FTE, the destination FIU sends made-up data to the destination FTE in order to prevent protocol timeouts (abstract). Scott describes two types of made-up data that may be sent: fill data and stall data. Fill data comprise additional zero bits following valid scan lines, which cause no change in the appearance of the printed image (col. 8, lines 18-27). Fill data can be used, however, only when accumulated facsimile data have been received from the network (col. 8, lines 34-41). Stall data cause white stalling lines to be printed in the image that is output by the destination FTE (col. 8, lines 8-10 and 45-49). The longer the delay, the more white lines are printed.

Claim 1 in the present patent application describes a method for facsimile transmission between first and second facsimile terminals over a packet network. A facsimile gateway awaits arrival of a signal from the first terminal. If the signal does not arrive within a certain time limit, the gateway transmits a fill page to the second terminal. The fill page is an entire page,

into which the gateway may insert substantially any type of content (specification, page 5, lines 18-24). It causes the second terminal to print the fill page, but has no effect on the pages of actual facsimile images that are transmitted between the facsimile terminals before or after the fill page, regardless of how long the delay in receiving the signal.

Thus, even if Scott seeks to solve problems that may be similar to those addressed by the present invention, the solutions proposed by Scott are substantially different from what is recited in claim 1. Scott's methods of dealing with delayed data either have no effect at all on what comes out of the receiving fax machine (fill data) or - when fill data cannot be used - add unsightly blank lines to the printed images (stall data). Claim 1, on the other hand, recites a method that is considerably more flexible: Fill pages may be added whenever desired, without affecting the quality of actual facsimile images. Scott neither teaches nor suggests the use of entire fill pages.

Therefore, claim 1 is believed to be patentable over Scott. In view of the patentability of claim 1, claims 2-7 and 9-11 are believed to be patentable, as well.

Claim 20 recites apparatus for facsimile transmission, while claim 39 recites a computer software product for facsimile transmission, both of which operate on principles similar to the method of claim 1. These claims were rejected on the same grounds as claim 1. Thus, for the reasons stated above, claims 20 and 39 are believed to be patentable over Scott, as are claims 21-26 and 28-30, which depend from claim 20.

Claims 8 and 27 were rejected under 35 U.S.C. 103(a) over Scott in view of Endo (U.S. Patent 6,381,038). Applicant respectfully traverses this rejection. Endo describes a facsimile machine and facsimile communication system, but makes no suggestion of transmitting fill

pages as required by claims 1 and 20, from which claims 8 and 27 respectively depend. Thus, in view of the patentability of claims 1 and 20, as explained above, claims 8 and 27 are believed to be patentable, as well.

Claims 12-19, 31-38 and 40 were rejected under 35 U.S.C. 103(a) over Chimura et al. (U.S. Patent 6,335,803) in view of Scott. Applicant respectfully traverses this rejection.

Chimura describes a facsimile communication system, in which facsimile machines communicate with each other via a data communication network, such as a LAN (col. 1, lines 8-12).. The facsimile machines are connected to the LAN by gateways 10A and 10B (col. 1, lines 30-34). Chimura's system operates in accordance with a real-time fax model, following the ITU-T T.30 Recommendation (col. 1, lines 25-30). According to this operational model, as illustrated by Chimura in Fig. 5 (cited by the Examiner), when the transmitting fax finishes sending a page of pixel information, it sends a multi-page signal (MPS) (step S92 and col. 8, lines 35-41). The gateways pass this signal to the receiving fax (S94, S96), and then return the message confirmation signal (MCF) from the receiving fax to the transmitting fax (S96, S100, S102). The steps are sequential, and the gateways in each case wait to receive the expected confirmation signal before sending out their own signals in turn. A similar, strict sequential model follows the end of procedure (EOP) signal sent by the transmitting fax (S110, *et seq.*) This sequential, real-time model can be problematic when the data communication network is characterized by jitter and delays (see page 4, line 9 - page 5, line 5, in the present patent application).

Scott, on the other hand, describes a store-and-forward model, which is free of most sequential constraints. As shown by Scott in Fig. 4 (cited by the Examiner), the originating FIU sends the confirmation

signal (MCF) to the originating FTE following each page (steps S16 and S17) independently of when the actual confirmation signal (MCF) is sent by the destination FTE. In other words, as shown in this figure, the originating FIU does not wait at all for any sort of confirmation from the destination FTE before sending the confirmation signal to the originating FTE. In fact, the final confirmation (MCF) is sent by the destination FTE only after the originating FTE has terminated the call with a disconnect (DCN) signal, as seen at the bottom of Fig. 4. Under these circumstances, it is quite possible that the originating FTE will determine the facsimile transmission to have concluded successfully (based on MCF S17 from the originating FIU), when in fact the destination FTE has not received one or more of the transmitted pages.

Claim 12 recites a method for facsimile transmission over a packet network that overcomes the limitations of both Chimura's fully-sequential approach and Scott's non-sequential approach. According to the method of claim 12, after receiving a first page of facsimile data from a sending terminal, the facsimile gateway transmits a confirmation signal to the sending terminal without waiting for confirmation from the receiving end of the call. The confirmation signal from the gateway permits the sending terminal to transmit a second page of facsimile data. After the second page, however, the gateway waits to receive confirmation that both the first and second pages were received before notifying the sending terminal of successful transmission. Thus, the call is not terminated until both pages have been successfully delivered to the receiving end. This approach relieves the timing constraints imposed by real-time packet fax methods, such as that described by Chimura, without sacrificing the reliability of traditional, T.30 fax terminals (see page 6, lines 4-14, in the specification).

Applicant respectfully submits that neither Chimura nor Scott teaches or suggests the final steps in the method of claim 12: awaiting the first and second confirmation packets, and sending a notification from the gateway to the sending terminal responsive to the first and second confirmation packets. In the case of Chimura, each confirmation signal sent from the gateway to the transmitting fax is in a response to a single, unique MCF control packet. Chimura never awaits or takes action on more than one MCF packet at a time. Each decision by the gateway is taken based only on the arrival (or failure to arrive) of the latest MCF packet. On the other hand, Scott's FIU sends its confirmation signals to the sending terminal irrespective of receiving any confirmation packet. There is no suggestion in the cited references or elsewhere in the prior art that a notification might be sent responsive to two (or more) confirmation packets, as required by claim 12. Simply superposing the methods of Chimura and Scott will not lead to this novel step.

Thus, Applicant respectfully submits that claim 12 is patentable over the cited art. In view of the patentability of claim 12, claims 13-19, which depend from claim 12, are believed to be patentable, as well.

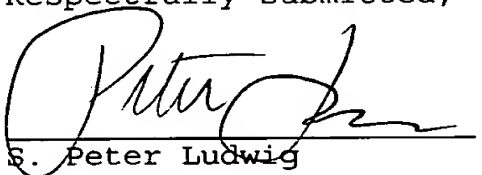
Claim 31 recites apparatus for facsimile transmission, while claim 40 recites a computer software product for facsimile transmission, both of which operate on principles similar to the method of claim 12. These claims were rejected on the same grounds as claim 12. Therefore, for the reasons stated above, claims 31 and 40 are believed to be patentable over Scott, as are claims 32-38, which depend from claim 20.

Although Applicant has not specifically argued the patentability of the dependent claims, these claims are also believed to recite subject matter that is independently patentable. For example, claim 17, which depends from claim 12, recites the additional step of

performing a line turnaround and sending a fill page to the sending terminal when one or more of the confirmation packets do not arrive within a predetermined time limit. Line turnaround, as defined in the specification (page 18, lines 1-7), is a specific function provided by the T.30 standard. The function is used in the method of claim 17 to deal with network delays in a novel way. The Examiner maintained that Scott describes this use of the line turnaround function in col. 2, lines 26-41, and in Fig. 2. In fact, Applicant respectfully submits that Scott makes no mention of line turnaround, and certainly fails to suggest that it might be used to deal with delays in receipt of confirmation packets. (Furthermore, as noted in reference to claim 1, Scott does not teach or suggest the use of fill pages.) Therefore, claim 17 is believed to be independently patentable. Similar arguments may be made with respect to other dependent claims, but are omitted here for the sake of brevity.

Applicant believes the amendments and remarks presented hereinabove to be fully responsive to all of the grounds of rejection raised by the Examiner. In view of these amendments and remarks, applicant respectfully submits that all of the claims in the present application are in order for allowance. Notice to this effect is hereby requested.

Respectfully submitted,



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